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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,668	08/28/2003	Nobushige Korenaga	00684.003143.1	6909
5514	7590	07/27/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			KIM, PETER B	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	
			2851	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,668

Applicant(s)

KORENAGA, NOBUSHIGE

Examiner

Peter B. Kim

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30 is/are allowed.
- 6) ☒ Claim(s) 28, 29 and 31-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/784,054.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 82003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claims 28, 31 and 32 are objected to because of the following informalities: Regarding Claim 28, it is unclear how a supporting force provided by the magnet does not change with a shift of carrying member along a plane perpendicular to the direction in which the weight is supported since the force provided also must shift as the carrying member is shifted.

Regarding Claims 31 and 32, it is unclear what is a “clearance” of a magnet. The claims do not specify respect to which structure the “clearance” of a magnet is changed.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 28, 29, 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Korenaga et al. (Korenaga) (5,608,773).

Korenaga discloses in Fig. 1(a), an exposure apparatus comprising a carrying member (1) for carrying a workpiece (3) and a supporting mechanism for supporting a weight of the carrying member with the first (8) and second (13) magnet elements having different sizes in a direction perpendicular to a direction of the force (Fig. 2). Korenaga also discloses the magnet elements that include permanent magnet (8) and electromagnet (13). Korenaga also discloses controller for controlling an electric current applied to electromagnet (col. 7, lines 1-10). Korenaga also

Art Unit: 2851

discloses that weight of the carrying member and a force applied from the supporting mechanism are balanced. If the weight of the carrying member and the force applied by the supporting mechanism are not balanced, the carrying member could be pushed off the supporting mechanism due to the upward force larger than the weight of the carrying member applied by the supporting mechanism. If the weight of the carrying member is far greater than the force applied by the supporting member, the carrying member would simply crush the support member. Korenaga also discloses in Fig. 21, 22 a device manufacturing method comprising applying a resist to a wafer, exposing the wafer and developing the wafer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 31, 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono (5,780,943).

Ono discloses in Figure 6, a supporting system comprising a carrying member (20) for carrying a workpiece (14), and a supporting mechanism (38, 46, 42) for supporting said carrying member; wherein the weight of the carrying member and a force to be applied to the carrying member are substantially balanced (col. 5, line 33 – col. 6, line 28). Ono also discloses a supporting system which includes a spring element (32) and a magnet element (38, 42, 46). Although Ono does not disclose supporting the carrying member from a workpiece transfer

Art Unit: 2851

position to a workpiece processing position, since such movements include moving in z-direction, x-direction, y-direction and rotational directions, and Ono discloses movements of the carrying member in all the mentioned directions, it would have been obvious to one of ordinary skill in the art at the time of the invention to move the carrying member to the transfer position or the exposure position as necessary.

Allowable Subject Matter

Claims 30, 33 and 34 are allowed.

None of the prior art of record teaches or discloses an exposure apparatus comprising supporting mechanism with a first element producing a resisting force to a shift in a supporting direction and a second element for producing a force for increasing the shift in the supporting direction.


None of the prior art of record teaches or discloses an exposure apparatus comprising supporting system wherein an absolute value of a changing rate of the force produced by magnet elements with respect to a change in the clearance of magnet element is set smaller or larger than an absolute value of a changing rate of force produced by spring element with respect to a change in clearance in combination with a carrying member for carrying a workpiece and a supporting mechanism for supporting the carrying member.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Peter B. Kim
Primary Examiner
Art Unit 2851

July 23, 2004